The Builder.

No. CCCLXXV.

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WHEN the Emperor Augustus, to revenge the death of Cæsar, had pursued and overcome the regicides Brutus and Cassius, he is supposed to have founded the magnificent temple of which remains yet exist in Rome, and to have dedicated it to Mars Ultor, or the avenger. It was on the first scale of magnitude, the columns being 58 feet high, and exceeding those of any other temple of which remains are found in the eternal city. The material was white marble, and the blocks of enormous size,—some of the frustra of the columns (nearly 6 feet in diameter) being 15 feet in height. The order was Corinthian, characterized by great boldness and simplicity, and the capitals were well adapted for effect at the distance from which their height rendered it necessary to view them.

This was the authority adopted by Mr. Railton for the memorial to Nelson in Trafalgar-square, now nearly completed.

Rendered at the onset unpopular through various circumstances into which we do not propose to enter, the subscription coffer, into which contributions had poured in a generous stream, suddenly closed, and the Government, on whom a large and unexpected responsibility had been thrown, found it necessary to act with extreme caution; so that, under these circumstances, and with a material of a somewhat novel and impracticable nature, it is hardly a matter of surprise that the erection should have been (if not like linked sweetness) "long drawn out."

It has now, however, become a more favourite topic with the press than it was, and the subject having been fully illustrated by the pen and the graver, we confine ourselves to a phase of it hitherto untouched, namely, the structural arrangement, to which we devote two illustrative engravings, one showing a general section from the foundations up to the figure, with the National Gallery in the background, and one showing details on a larger scale.*

The stratum on which the foundation rests is clay of great depth and compactness, as ascertained by preliminary borings in many parts. An excavation 80 feet square and extending to a depth of about 12 feet below the surface of the pavement was made and covered with a layer of concrete 6 feet thick. In the centre was then built in solid brickwork the frustrum of a pyramid 48 feet square at the base and 13 feet high, the six lowermost and six upper courses being in cement, and the latter level with the top of the podium. At this level the superstructure commences with the graduated stylobate of the pedestal, the first step of which is 33 feet 4 inches wide. From this point to the foot of the statue the work is of solid granite, and for the most part in blocks of very considerable dimensions, disposed with great attention to bond. The arrangement and truth of the work as well as the superficial dressing, may be admired, while in the shaft the blocks are so connected as, with the aid of the joggles in the beds, to give to the fabric almost the cohesion of a monolith.

Fig. 3 represents the arrangement of one course, in which the converging joints of the vousoirs are intercepted by a large central oblong core, and as this core alternates at right angles an excellent key is obtained, and the square joggles in the beds of the outer blocks serve not only to connect the courses vertically, but to cramp the parts of the same course inseparably together.—See also the sketch fig. 4.

It may be interesting to deduce an ancient parallel to this method of building, which we are enabled to do from the remains of the great temple at Agrigentum, in Sicily, erected some three-and-twenty centuries ago. In the supplementary volume to "Stuart's Athens" (to which, by-the-bye, the architect of the Nelson column was a contributor), we are furnished with the horizontal section of one of the engaged columns and adjacent walling copied in our fifth diagram, showing the lateral bond and the alternately circular and octagonal figure of the core. A vertical bond was formed by making the course not uniformly level throughout, and by a key or dowel occasionally inserted in the beds, but although in the temples of Greece iron cramps were of general application, no trace of such an expedient is found at Agrigentum, nor do any, we are glad to say, exist in the subject of our present article.

The granite employed in Trafalgar-square was brought from Foggin-Tor, on the coast of Devon, and was selected by the architect on account of the fineness and uniformity of its appearance,—the compounds of mica, feldspar, and quartz being in small equable particles, and intimately distributed, so that neither from the attrition of working, nor the action of the atmosphere, was it possible that defacement should occur in the ratio to which some kinds —as those having what workmen call the horse-tooth—are liable; but, in the interior, blocks of coarser grain and such as had a natural discolouration were disposed of.

In the design first submitted by Mr. Railton, as appears from a printed particular, Cragleith stone was to have been employed for the column, and the statue of Nelson was to be in bronze; but the figure is now the only portion executed in Cragleith stone, and consists of three massive blocks, presented by his Grace the Duke of Buccleuch. The largest of these blocks weighed upwards of 30 tons, and in its extraction from the quarry, and shipment into a vessel expressly chartered, required a very great amount of labour and mechanical skill.

When granite was determined upon for the shaft, bronze for the ornamental portions of the capital (Fig. 2) became imperative, but the circumstance was one of much difficulty and expense. Very careful full-size models were prepared by Mr. C. H. Smith; and the preparation of the moulds and the running of the metal were conducted in the Arsenal foundry, at Woolwich, with much ability, by Mr. Clarke.

The foliage is connected to the bell of the cap by three large belts of metal lying in grooves, and rendering it needless to fix plugs into the work, with the concomitant risk of damage from the galvanic action of metals.

The bronze being of old ordnance taken during the war, we are uninformed of the quantity consumed, but it must be very considerable, as a first casting of one of the lower tier of leaves weighed about 900 lbs. The improved method of moulding, however, afterwards adopted, economized the metal very much.

The relievi for the sides of the pedestal, commemorative of Nelson's four principal engagements, St. Vincent, Copenhagen, Nile, and Trafalgar, are also of bronze, it being, says the architect's description, "less liable than stone to injury from time, accident, or intentional mutilation."

Fig. 1 is a plan of the general arrangement. The four angular cippi of the podium are intended to be charged with the colossal lions indicated in our sectional engraving, but whether in the granite of Devonshire, or the rubiform sort from Peterhead, or, again, in metal, is unsettled. So that the design be completed, and the reproach of ingratitude removed from the nation, we will not agitate the question of mere material; but we do hold it most ignoble that in this prolific age, and in the heart of this magnificent metropolis, our inability to complete a record of heroism and of that long succession of glorious events which contributed so essentially to the honour and welfare of England, should remain thus patent to the world.

The cost of the monument at the present time, we understand, amounts to about 26,000*l.*, including the statue at the summit and the four subjects in bronze for the pedestal.

Subjoined are the dimensions of the principal columns which have been erected as monuments:—

Date.		Order.	Height to the top of capital.	Diameter.
A.D.			Feet.	Feet.
118 Trajan.	Rome.	Doric.	115	12
162 Antonine.	Rome.	Doric.	123	13
1671 Monument.	London.	Doric.	172	15
1806 Napoleon.	Paris.	Doric.	115	12
1832 Duke of York.	London.	Doric.	109	11
1839 Nelson.	London.	Corinthian.	145·6	10·6

COPYISM IN GOTHIC ARCHITECTURE.

As an architect's primary duty is to design and build rather than to write, permit me to hint that, if the gentlemen who load your pages with their protests against copyism, were to spend even a portion of their spare time in endeavouring to *invent* or discover that new style which is their ideal panacea of architecture, they might be doing a real benefit to art, whether by solving that knotty problem or by proving it insoluble. I would yield to no one in decrying any system to which mere copying is necessary, but I protest against the revival of Pointed architecture being designated copyism. It is quite true that no art can be learned, and, as a consequence, none can be revived, without involving a certain amount of copying during the process of learning or reviving. A boy, when he learns to write, is set to copy strokes, pot-hooks, and letters; but does this show the art of writing to be mere copyism? The artist learns his art first by copying, the student of a language is at first servile in his attempts at composition, and the constructor of a trussed roof or a railway bridge probably copies a little before he feels confidence to strike out on his own account; but does this show that an artist, a person who speaks a foreign tongue, or an engineer, is essentially a mere copyist? It may be that many among our revivalists keep too long in leading strings, and that we want an occasional spur to make us strike boldly forward and develope for ourselves, and to make the revived art more decidedly our own; but this is a very different thing from decrying all we are doing as mere blind servility. If we revive an old style we know why we revive it, and that is more than can be said by those who stick up exact copies, taken from the most accurate decimal measurements, of parts of pagan temples and other buildings, with which they have nothing to do. The fact is, that our great misfortune consists in our forefathers having once committed the

* See pp. 174 and 173.

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